ANALYST:		VPDES NO	

Parameter: Orthophosphate
Method: Ascorbic Acid
05/06

METHOD OF ANALYSIS:

	18th Edition of Standard Methods 4500-P E
	EPA Methods For Chemical Analysis 365.2
	ASTM D515-88(A)
	AOAC 15th Edition 973.56

		Y	N
1)	Are samples containing $(PO_4)^{-3}$ concentrations greater than 0.5 mg/L diluted to fall within the desired range? [SM-1; 365.2-1.3]		
2)	Is absorbance measured with a spectrophotometer equipped with an infrared phototube for use at 650 or 880 nm with a light path of 1.0 cm or longer [365.2]; at 880 nm with a light path of 2.5 cm or longer [SM] or a filter photometer with a red filter and a light path of 0.5 cm or longer [SM]? [SM-2.a; 365.2-6.1]		
3)	Is glassware dedicated to phosphorus analysis? [SM-2.b; 365.2-6.2]		
4)	Is glassware routinely rinsed with distilled water after use and cleaned with hot dilute HCl when necessary? [SM-2.b; 365.2-6.2]		
5)	Is glassware kept covered or filled with water between uses? [SM-2.b; 365.2-6.2]		
6)	Is the stock phosphorus solution prepared with KH_2PO_4 that has been dried at 105^{o}C for 1 hour? [SM-3.f; 365.2-7.8]		
7)	Is antimony potassium tartrate stored in a tightly capped dark glass bottle at 4^{o}C? [SM-3.b; 365.2-7.2]		
8)	Is ammonium molybdate stored in a tightly capped glass or plastic bottle at 4^{o}C? [SM-3.c; 365.2-7.3]		
9)	Is ascorbic acid solution prepared weekly and stored at 4^{o}C? [SM-3.d; 365.2-7.4]		
10)	Are reagents discarded if precipitate or growths appear? [Permit]		
11)	Is combined reagent mixed after the addition of each reagent and in the following order; 50 mL 5N H_2SO_4, 5 mL potassium antimonyl tartrate solution, 15 mL ammonium molybdate solution, and 30 mL ascorbic acid solution? [SM-3.e; 365.2-7.5]		
12)	Is combined reagent used within 4 hours of preparation? [SM-3.e; 365.2-7.5]		
13)	If red color develops upon addition of one drop of phenolphthalein to the sample, is the color discharged with 5N H_2SO_4? [SM-4.a]		
14)	Is 8 mL of combined reagent added to 50 mL of sample? [SM-4.a; 365.2-8.3.2]		
15)	Is absorbance read after 10 minutes but no later than 30 minutes after the addition of the combined reagent? [SM-4.a; 365.2-8.3.2]		
16)	Are matched cuvettes used for colorimetric analysis? [Permit]		
17)	Are cuvettes free of fingerprints, scratches or stains? [Permit]		
18)	Is curve prepared using the same conditions for standards as for samples? [SM-4.c; 365.2-9.1]		

		Y	N
19)	In order to verify an existing curve, are two standards that bracket the sample values and a reagent blank run with each series of samples with recovery of ∀10% of the known values? If not, is a new curve developed? [Permit]		
20)	Are standards prepared using Class A volumetric glassware? [SM 1070 B.2; Permit]		
21)	Are the appropriate number of standards plus a blank used in developing the calibration curve? 6 [SM 4.c] ; 8 [365.2-7.9]		
22)	Are highly colored or turbid samples corrected by adding all reagents except ascorbic acid and antimonyl potassium tartrate to a sample blank and subtracting the blank absorbance from all samples? [SM-4.b; 365.2-8.3.2]		

PROBLEMS: